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| 10/634,602      | 08/04/2003  | Mark C. Pontarelli   | 42P16719            | 6511             |

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EXAMINER

BAE, JI H

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2115

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/634,602

Applicant(s)

PONTARELLI, MARK C.

Examiner

Ji H. Bae

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 04 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>8-4-03, 3-4-05</u> .  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4, 8-10, and 15-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 4, applicant recites that the detecting step of claim 1 comprises "detecting an event at a network interface". The method of claim 1 recites a step of "detecting an event associated with a first network interface." The language of claim 4 recites "a network interface", making it unclear whether this detecting step is related to the previously recited "first network interface" or a new interface.

Regarding claim 8, applicant recites that the detecting step "comprises servicing a host processor detecting a timer event related to servicing the first network interface." This limitation is not clear. In the specification, applicant has established that servicing is performed in response to detecting an event. Examiner fails to understand how detecting includes the step of servicing a host processor.

Regarding claim 9, the claim is circularly dependent ("the method of claim 9"). Additionally, the claim recites "a first network interface" and "a second network interface". These limitations have already been recited in claim 5.

Regarding claim 10, applicant recites the method of claim 5 further comprising the step of "returning the host processor to a power saving state after servicing the first and second network interfaces." Applicant has already recited "a power saving state" in the previous

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limitation. It is unclear whether applicant intends the power saving state to which the host processor is being returned to is different from the previous power saving state.

Regarding claim 15, applicant recites "an interface coordinator adapted to coordinate the servicing of at least two network interfaces." There is no prior recitation of a servicing step in the claim. As a result, there is a lack of antecedent basis for this limitation in the claim.

Claims 16-20 are rejected by virtue of their dependency.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Novoa et al., U.S. Patent No. 6,493,824 B1, in view of Lee et al., U.S. Patent No. 6,741,836 B2.

Regarding claim 1, Novoa teaches a system with multiple network interfaces [Fig. 2, NIC 117/119], the system implementing a method with steps comprising Fig. 4]:

detecting an event associated with a first network interface [steps 404-414];

waking a host processor in response to the detected event [step 416];

servicing the first network interface based on the detected event [step 418].

Although Novoa teaches multiple network interfaces, Novoa does not teach the step of servicing a second network interface during a same wake session.

Lee teaches a system with two different network interfaces [Fig. 1, Bluetooth module and CDMA module]. Lee teaches that the system periodically "wakes up" to service a network interface, and is "asleep" at all other times [col. 1, lines 38-40, col. 2, lines 8-12]. Lee

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additionally teaches that the waking times are synchronized so that the first and network interfaces are serviced during the same wake period [col. 2, lines 45-67].

It would have been obvious to one of ordinary skill in the art to combine the teachings of Novoa and Lee by modifying Novoa to service the first and second network interfaces during the same waking period, in the manner taught by Lee. Both Novoa and Lee teach systems with multiple network interfaces, the system configured to awake from a low-power sleep mode to service events related to each network interface. Novoa teaches multiple network interfaces [Novoa, Fig. 2], and that any of the network interfaces may be used to wake up the system [Novoa, col. 9, lines 63-67]. Lee teaches that synchronizing the wake-up periods related to servicing each of the network interfaces is desirable because such synchronization will minimize the awake period for the system, thus saving power [Lee, col. 3, lines 8-11]. Therefore, the combination of Lee with Novoa would improve the system of Novoa in the manner described.

Regarding claim 2, the combination of Lee and Novoa teaches an event from the group comprising:

a synchronous event, an asynchronous event, an internal event, and an external event.

Regarding claim 3, the combination of Lee and Novoa teaches that the detecting comprises the first network interface receiving a request from an external device.

Regarding claim 4, the combination of Lee and Novoa teaches that the detecting comprises detecting an event at a network interface.

Regarding claim 5, the combination of Lee and Novoa teaches a method comprising:

detecting an event related to a first network interface;

servicing a first network interface and a second network interface in response to the detecting.

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Regarding claim 6, the combination of Lee and Novoa teaches an event from the group comprising:

a synchronous event, an asynchronous event, an internal event, and an external event.

Regarding claim 7, the combination of Lee and Novoa teaches that detecting comprises detecting an event received at the first network interface.

Regarding claim 8, the combination of Lee and Novoa teaches that detecting comprises a host processor detecting a timer event related to servicing the first network interface.

Regarding claim 9, the combination of Lee and Novoa teaches servicing a first and second network interface during the same wake session.

Regarding claim 10, the combination of Lee and Novoa teaches the additional steps of: placing a host processor in a power saving state prior to detecting the event; and returning the host processor to a power saving state after servicing the first and second network interfaces.

Regarding claim 11, the combination of Lee and Novoa teaches the method comprising: detecting an event related to a first network interface; detecting an event related to a second network interface; notifying a processor of the events for the first and second network interfaces; servicing the events for both the first and second network interfaces in response to the notifying.

Regarding claim 12, the combination of Lee and Novoa teaches that notifying comprises sending an interrupt to a processor [Novoa, col. 4, lines 24-26].

Regarding claim 13, the combination of Lee and Novoa teaches that notifying comprises waking the processor from a power saving state and notifying the processor of the detected events.

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Regarding claim 14, the combination of Lee and Novoa teaches that the system is placed in a power saving state prior to the detecting, and the system is returned to the power saving state after the servicing.

Regarding claim 15, the combination of Lee and Novoa teaches the methods of claims 1-14. The combination also teaches the apparatus to implement the claimed method. In particular, Novoa teaches a control module [Fig. 3, control module 308] that handles the detecting and servicing aspects of the network interface [col. 7, line 64 to col. 8, line 9]. It would have been obvious to one of ordinary skill in the art to apply the inventive teachings of Lee to the control module of Novoa when combining Lee with Novoa.

Regarding claims 16-20, the claimed limitation are obvious in view of design choice. It would have been obvious to one of ordinary skill in the art that the combination of Lee and Novoa could have been applied to any combination of wired or wireless network.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Wey et al., U.S. Patent No. 6,098,100;

McKaughan et al., U.S. Patent No. 5,802,305;

Short et al., U.S. Patent No. 5,708,814;

Vij et al., U.S. Patent No. 6,452,910;

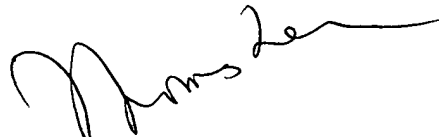
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ji H. Bae whose telephone number is 571-272-7181. The examiner can normally be reached on Monday-Friday, 10 am to 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Lee can be reached on 571-272-3667. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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